

What Makes a Question Essential?

Teachers regularly pose questions to their students, but the purpose and form of these questions can vary widely. This book is about a particular kind of question—one we call “essential.” So, what makes a question “essential”? Let us begin by engaging you in a bit of inquiry using the following concept-attainment exercise to examine the characteristics of an essential question. The exercise has three parts, as explained in the next several paragraphs.

First, examine the questions in the two columns and try to determine the distinguishing characteristics of the ones labeled “Essential” compared to those labeled “Not Essential.” What traits do the essential questions have in common? How do they differ from the others?

Essential Questions

- How do the arts shape, as well as reflect, a culture?
- What do effective problem solvers do when they get stuck?
- How strong is the scientific evidence?
- Is there ever a “just” war?
- How can I sound more like a native speaker?
- Who is a true friend?

Not Essential Questions

- What common artistic symbols were used by the Incas and the Mayans?
- What steps did you follow to get your answer?
- What is a variable in scientific investigations?
- What key event sparked World War I?
- What are common Spanish colloquialisms?
- Who is Maggie’s best friend in the story?

Second, look at these additional examples, organized by subject area, to spark your thinking and clarify the qualities of essential questions, or EQs.

Essential Questions in History and Social Studies

- Whose “story” is this?
- How can we know what *really* happened in the past?
- How should governments balance the rights of individuals with the common good?
- Should _____ (e.g., immigration, media expression) be restricted or regulated? When? Who decides?
- Why do people move?
- Why is that there? (geography)
- What is worth fighting for?

Essential Questions in Mathematics

- When and why should we estimate?
- Is there a pattern?
- How does *what* we measure influence *how* we measure? How does *how* we measure influence *what* we measure (or don’t measure)?
- What do good problem solvers do, especially when they get stuck?
- How accurate (precise) does this solution need to be?
- What are the limits of this math model and of mathematical modeling in general?

Essential Questions in Language Arts

- What do good readers do, especially when they don’t comprehend a text?
- How does *what* I am reading influence *how* I should read it?
- Why am I writing? For whom?
- How do effective writers hook and hold their readers?
- What is the relationship between fiction and truth?
- How are stories from other places and times about me?

Essential Questions in Science

- What makes objects move the way they do?
- How are structure and function related in living things?
- Is aging a disease?
- Why and how do scientific theories change?
- How can we best measure what we cannot directly see?
- How do we decide what to believe about a scientific claim?

Essential Questions in the Arts

- What can artworks tell us about a culture or society?
- What influences creative expression?

- To what extent do artists have a responsibility to their audiences?
- Do audiences have any responsibility to artists?
- What's the difference between a thoughtful and a thoughtless critique?
- If practice makes perfect, what makes perfect practice?

Essential Questions in World Languages

- What should I do in my head when trying to learn a language?
- How can I express myself when I don't know all the words (of a target language)?
- What am I afraid of in hesitating to speak this language? How can I overcome my hesitancy?
- How do native speakers differ, if at all, from fluent foreigners? How can I sound more like a native speaker?
- How much cultural understanding is required to become competent in using a language?
- How can I explore and describe cultures without stereotyping them?

As a result of comparing essential and nonessential questions and studying the additional examples, you should now have an idea of what makes a question “essential.” Here are seven defining characteristics. A good essential question

1. Is *open-ended*; that is, it typically will not have a single, final, and correct answer.
2. Is *thought-provoking* and *intellectually engaging*, often sparking discussion and debate.
3. Calls for *higher-order thinking*, such as analysis, inference, evaluation, prediction. It cannot be effectively answered by recall alone.
4. Points toward *important, transferable ideas* within (and sometimes across) disciplines.
5. Raises *additional questions* and sparks further inquiry.
6. Requires *support* and *justification*, not just an answer.
7. *Recurrs* over time; that is, the question can and should be revisited again and again.

How does your working definition compare?

Questions that meet all or most of these criteria qualify as essential. These are questions that are not answerable with finality in a single lesson or a brief sentence—and that's the point. Their aim is to stimulate thought, to provoke inquiry, and to spark more questions, including thoughtful student questions, not just pat answers. They are provocative and generative. By tackling such questions, learners are engaged in *uncovering* the depth and richness of a topic that might otherwise be obscured by simply *covering* it.

Now we present the third part of the concept-attainment exercise. Using the characteristics we presented and those that you noted, which of the following questions do you think are essential? Why?

| Question | Is it Essential? |
|--|---------------------|
| 1. In what year was the Battle of Hastings fought? | Yes/No |
| 2. How do effective writers hook and hold their readers? | Yes/No |
| 3. Is biology destiny? | Yes/No |
| 4. Onomatopoeia—what's up with that? | Yes/No |
| 5. What are examples of animals adapting to their environment? | Yes/No |
| 6. What are the limits of arithmetic? | Yes/No |

Check your answers against the key on page 15. How did you do? Are you getting a better feel for what makes a question essential? Good! Now we'll probe more deeply to uncover the nuances of EQs.

Two Sides of a Coin

Although we have characterized essential questions as being important for stimulating student thinking and inquiry, this is not their sole function. In the body of work known as *Understanding by Design* (McTighe & Wiggins, 2004; Wiggins & McTighe, 2005, 2007, 2011, 2012), we propose that education should strive to develop and deepen students' understanding of important ideas and processes so that they can transfer their learning within and outside school. Accordingly, we recommend that content (related goals) be unpacked to identify long-term transfer goals and desired understandings. Part of this unpacking involves the development of associated essential questions. In other words, EQs can be used to effectively frame our key learning goals. For example, if a content standard calls for students to learn about the three branches of government, then questions such as "When does a government overstep its authority?" or "How might we guard against governmental abuses of power?" help stimulate student thinking about why we need checks and balances, what the framers of the Constitution were trying to achieve, and other governmental approaches to balancing power. Note that the question has more than one answer, even if in the United States we have grown accustomed to our particular answer. In this sense, the question is still open, not closed.

We'll have more to say about how to come up with good essential questions in later chapters, but for now try this simple thought experiment. If the content you are expected to teach represents "answers," then what questions were being asked by the people who came up with those answers? This conceptual move offers a useful strategy both for seeing a link between content standards and important questions and for coming up with ways of engaging students in the very kind of thinking that is required to truly understand the content. In short, expert knowledge is the result of inquiry, argument, and difference of opinion; the best questions point to hard-won big ideas that we want learners to come to under-

stand. The questions thus serve as doorways or lenses through which learners can better see and explore the key concepts, themes, theories, issues, and problems that reside within the content.

It is also through the process of actively “interrogating” the content using provocative questions that students strengthen and deepen their understanding. For instance, a regular consideration of the question “How are stories from different places and times about me?” can lead students to the big ideas that great literature explores—the universal themes of the human condition underneath the more obvious peculiarities of personality or culture—and thus can help us gain insight into our own experiences. Similarly, the question “To what extent can people accurately predict the future?” serves as a launch pad for examining big ideas in statistics and science, such as sampling variables, predictive validity, degrees of confidence, and correlation versus causality.

At a practical level, think of targeted understandings and essential questions as the flip sides of the same coin. Our essential questions point toward important transferable ideas that are worth understanding, even as they provide a means for exploring those ideas. This associated relationship is suggested graphically in the Understanding by Design (UbD) unit-planning template, where targeted understandings are placed next to their companion essential questions. Here are some examples:

Understandings

- The geography, climate, and natural resources of a region influence the economy and lifestyle of the people living there.
- Statistical analysis and data display often reveal patterns. Patterns enable prediction.
- People have different dietary needs based on age, activity level, weight, and various health considerations.
- Dance is a language of shape, space, timing, and energy that can communicate ideas and feelings.

Essential Questions

- How does *where* you live influence *how* you live?
- What will happen next? How sure are you?
- How can a diet that is “healthy” for one person be unhealthy for another?
- How can motion express emotion?

Three Connotations of *Essential*

A finer-grained examination of such questions reveals three different but overlapping meanings for the term *essential*. One meaning of *essential* includes the terms “important” and “timeless.” Essential questions in this sense arise naturally and recur throughout one’s life. Such questions are broad in scope and universal by

nature. *What is justice? Is art a matter of taste or principles? How much should we tamper with our own biology and chemistry? Is science compatible with religion? Is an author's view privileged in determining the meaning of a text?* Essential questions of this type are common and perpetually arguable. We may arrive at or be helped to grasp understandings for these questions, but we soon learn that answers to them are provisional or more varied than we might have imagined. In other words, we are liable to change our minds in response to reflection, different views, and rich experience concerning such questions as we go through life—and such changes of mind are not only expected but beneficial. A good education is grounded in such lifelong questions, even if we sometimes lose sight of them while focusing on content mastery. Such questions signal that education is not just about learning “the answer” but also about learning how to think, question, and continually learn.

A second connotation for *essential* refers to “elemental” or “foundational.” Essential questions in this sense reflect the key inquiries within a discipline. Such questions point to the big ideas of a subject and to the frontiers of technical knowledge. They are historically important and very much alive in the field. The question “Is any history capable of escaping the social and personal history of its writers?” has been widely and heatedly debated among scholars over the past hundred years, and it compels novices and experts alike to ponder potential bias in any historical narrative. Questions such as “How many dimensions are there in space-time?” and “To what extent are current global weather patterns typical or unusual?” are at the forefront of debate about string theory in physics and global climate change in climatology, respectively. The question “Is it more a sign of creativity or arrogance when a writer tries to tell a story from the perspective of a gender or culture different from his or her own?” has been energetically debated in the world of literature and the arts in recent years.

A third and important connotation for the term *essential* refers to what is vital or necessary for personal understanding—in the case of schooling, what students need for learning core content. In this sense, a question can be considered essential when it helps students make sense of seemingly isolated facts and skills or important but abstract ideas and strategies—findings that may be understood by experts but not yet grasped or seen as valuable by the learner. Examples include questions such as these: *In what ways does light act wavelike? How do the best writers hook and hold their readers? What models best describe a business cycle? What is the “best fit” line of these “messy” data points?* By actively exploring such questions, learners are helped to connect disparate and confusing information and arrive at important understandings as well as more effective (transfer) applications of their knowledge and skill. Consider a sports example. In soccer, basketball, football, lacrosse, and water polo, strategic players and teams come to understand the importance of asking “Where can we best create more open space on offense?” (Note that this question serves as a springboard for a strategic understanding—that spreading out the defense

enhances ball advancement and scoring opportunities.) It leads to the more obvious and important question: “How might we win more games?” Note, therefore, that even in skill-focused instruction such as in PE or math, there are important essential questions for helping students understand the point of the skills and the meaning of results. (We will further discuss EQs in skill-based courses in later chapters.)

Intent Trumps Form

You may have heard that so-called higher-order questions should begin with the stems *why*, *how*, or *in what ways*. Indeed, such question starters seem to signal inherently open-ended thought, inviting multiple responses. Do not assume, however, that all questions beginning with *what*, *who*, or *when* are necessarily asking for factual answers or that *why* questions are inherently higher-order. For example, consider these questions: *What is fair in economics? Who is a “winner”? When should we fight?* These are clearly not recall questions. They encourage thinking and discussion, and one’s answers may evolve over time. Alternately, you could ask your class, “Why did World War II start?” but really be seeking the single answer that is provided in the textbook.

This consideration leads to a more general point: intent trumps form. *Why* you ask a question (in terms of the desired result of asking it) matters more than *how* you phrase it. No question is inherently essential or trivial. Whether it is essential depends on purpose, audience, context, and impact. What do you as a teacher intend for students to do with the question? Recall the earlier example “Is biology destiny?” It is framed in a way that to the uninitiated might sound closed or factual. But clearly we would ask it to spark interesting and pointed debate about what is and isn’t predictable about human behavior and health. In other words, the essentialness of the question depends upon why we pose it, how we intend students to tackle it, and what we expect for the associated learning activities and assessments. Do we envision an open, in-depth exploration, including debate, of complex issues, or do we plan to simply lead the students to a prescribed answer? Do we hope that our questions will spark students to raise their own questions about a text, or do we expect a conventional interpretation?

In other words, if we look only at the wording of a question out of context, we cannot tell whether the question is or is not essential. Consider the question “What is a story?” Clearly, if we pose this question with the intent of having students give a textbook answer (“a story contains a plot, characters, setting, and action”), then the question (as pursued) is not essential in terms of our criteria. However, if the question is being asked to initially elicit well-known story elements but then *overturn* that conventional definition through a study of postmodern novels that lack one or more of these elements, then it functions in an “essential” manner.

Consider the same question—“What’s the pattern?”—used in three classroom situations with very different intentions:

1. A 2nd grade teacher asks, “Boys and girls, look at the numbers 2, 4, 6, 8, _____. What comes next? What’s the pattern?” In this case, the question is leading toward a specific answer (10).
2. An Algebra 1 teacher presents students with a set of data and asks them to plot two related variables on a graph. “What do you notice? What’s the pattern?” In this case, the teacher is guiding the students to see a linear relationship in all the data.
3. A science teacher shows a data table of incidents of AIDS cases over a 15-year period, disaggregated by age, gender, region, and socioeconomic status. His question to students is “What’s the pattern (or patterns)?” Instead of a pat answer, he intends to evoke careful analysis, reasoning, and spirited discussion.

Thus we cannot say a question is or is not essential based only on the language used in its phrasing. As noted, *who/what/when* questions, as well as those that seem to elicit a *yes/no* response, may spark impressive curiosity, thought, and reflection in students, depending upon how they are set up instructionally and the nature of the follow-ups. Consider these examples and imagine the lively discussion, sustained thinking, and insights they might evoke:

- Is the universe expanding?
- Is a democracy that suspends freedoms a contradiction in terms?
- Does Euclidean geometry offer the best “map” for the space we live in?
- Who should lead?
- Are imaginary numbers useful?
- Is *Catcher in the Rye* a comedy or a tragedy?
- What is the “third” world? Is there a “fourth”?
- When is mission accomplished and victory assured?

And as we noted, the notion of intent works the other way around. A teacher may pose an intriguing and *seemingly* open question yet expect a pat answer. In the worst cases, instructors display intellectual dishonesty when they ask for students’ opinions on controversial issues but actually seek or highlight responses that they deem politically or morally correct.

This relevance of purpose or intent is more easily grasped if you think about your own response to thought-provoking questions. The best essential questions are really alive. People ask, discuss, and debate them outside school. They arise naturally in discussion, and they open up thinking and possibilities—for novices and experts alike. They signal that inquisitiveness and open-mindedness are fundamental habits of mind and characteristic of lifelong learners. In a more practical sense, a question is alive in a subject if we really engage with it, if it seems genuine and relevant to us, and if it helps us gain a more systematic and deep understanding of what we are learning.

Ultimately, then, we need to consider the larger intent and context of the question—including its associated follow-ups, assignments, and assessments—to

determine whether it ends up being essential. (We have more to say on the culture of inquiry needed to make the most of essential questions in a later chapter.)

Size and Scope Matter: Overarching Versus Topical EQs

Questions such as “What margins of error are tolerable?” are essential in yet another sense. They offer relevance and transferability across disciplines, linking not only to units and courses in measurement, statistics, and engineering, but also to areas as diverse as pottery, music, and parachute packing. Such questions encourage and even demand transfer beyond the particular topic in which we first encounter them. They can (and thus should) recur over the years to promote conceptual connections and curriculum coherence within (and sometimes) across topics and disciplines.

Essential questions (and companion understandings) differ in scope. For example, “What lessons can we learn from World War II?” and “How do the best mystery writers hook and hold their readers?” are typically asked to help students come to particular understandings around those specific topics and skills. Such questions are not usually meant to be perpetually open or unanswerable. They refer specifically to the topic of a unit, in these cases, World War II and the genre of writing called mysteries, respectively. Other essential questions are broad and overarching, taking us beyond any particular topic or skill, toward more general, transferable understandings. For example, “What lessons can we and can’t we learn from the past?” extends well beyond World War II and can fruitfully be asked again and again over many years in several subject areas. Similarly, we need not inquire solely about how mysteries engage us. That topical question fits under the broader question that applies to all writers and artists: “How do the best writers and artists capture and hold our attention?”

We refer to specific essential questions as “topical” and the more general questions as “overarching.” (The same idea applies to understandings.) Here are some paired examples of these two types of essential questions:

Overarching Essential Questions

- Whose “story” (perspective) is this?
- How are structure and function related?
- In what ways does art reflect, as well as shape, culture?
- How do authors use story elements to establish mood?
- What makes a system?
- What are common factors in the rise and fall of powerful nations?

Topical Essential Questions

- How did Native Alaskans view the “settlement” of their land?
- How does the structure of various insects help them to survive?
- What do ceremonial masks reveal about the Inca culture?
- How does John Updike use setting to establish a mood?
- How do our various body systems interact?
- Why did the Soviet Union collapse?

As you can see, the essential questions on the right focus on particular topics, whereas the companion questions to the left are broader in nature. (Although seemingly convergent, these topical questions still give rise to different plausible responses.) Notice that the overarching EQs make no mention of the *specific* content of the unit. They transcend particular subject matter to point toward broader, transferable understandings that cut across unit (and even course) topics.

Overarching essential questions (and understandings) are valuable for framing entire courses and programs of study (such as a K–12 health curriculum). They provide the conceptual armature for an understanding-based curriculum that spirals around the same EQs across the grades.

Metacognitive and Reflective Questions

The examples of essential questions that we have provided thus far have been primarily nested in academic disciplines. However, there is a more general set of EQs that may be described as metacognitive and reflective. Here are some examples:

- What do I know and what do I need to know?
- Where should I start? When should I change course? How will I know when I am done?
- What's working? What's not? What adjustments should I make?
- Is there a more efficient way to do this? Is there a more effective way to do this? How should I balance efficiency and effectiveness?
- How will I know when I am done?
- What should I do when I get stuck?
- How can I overcome my fear of making mistakes?
- What have I learned? What insights have I gained?
- How can I improve my performance?
- What will I do differently next time?

General questions of this type are truly essential to effective learning and performance, within and outside school. Such questions have proven particularly fruitful in subjects that focus on skill development and performance. Their use characterizes a thoughtful and reflective individual, and they can be posed and considered across the grades, as well as at home and throughout life.

Nonessential Questions

Various types of questions are used in schools, and most are not essential in our sense of the term (even if they all play useful roles in teaching). Let's look at three other types of common classroom questions: questions that lead, guide, and hook. In later chapters we will describe other types, including probing questions and questions used to check for understanding.

Questions That Lead

The legendary comedian Groucho Marx hosted a television quiz show in the 1960s called *You Bet Your Life*. Whenever a contestant missed all or most of the quiz queries, Groucho would pose the final face-saving question: “Who is buried in Grant’s tomb?” (Alas, not all contestants could answer it!) This is a perfect example of a leading question because it points to and demands the single, “correct” answer. (We realize that lawyers and debaters define leading questions differently, but we think the term is apt for describing the teacher’s motive: to elicit a correct answer.) Here are other examples of leading questions:

- What is seven times six?
- What did we say was true of all four-sided shapes?
- Who was the president at the start of the Great Depression?
- What is the chemical symbol for mercury?
- What’s the relative minor key of A major?
- Which letters are vowels?

Leading questions allow a teacher to check that learners can recollect or locate specific information. Thus they have their place when recall and reinforcement of factual knowledge are desired. Another term for such questions is *rhetorical*, which usefully reminds us that they aren’t real questions in an important sense. Their purpose is not to signal inquiry but to point to a fact. That’s why lawyers and debaters routinely use rhetorical questions to direct attention to *their* point.

Questions That Guide

Another familiar type of question used by teachers (and found in textbooks) may be called “guiding.” Consider the following examples:

- Is this sentence punctuated properly?
- Why must the answer be less than zero?
- How do we use the “rule of thirds” in photography?
- Can you state Newton’s 2nd Law in your own words?
- When did the main character begin to suspect his former friend?
- What were the four causes of World War I? (This information is found on different pages in the text.)
- Which words tend to be feminine and which masculine in French?

Questions that guide are broader than questions that lead, but are not truly open-ended or designed to cause in-depth inquiry. Each of these questions is steering the student toward previously targeted knowledge and skill—to arrive at a definite answer. Yet the answer requires some inference, not simply recall. As such they are important tools for helping teachers achieve specific content outcomes.

Although such questions are familiar and useful, we do not consider them essential, as you will see if you check them against the seven criteria noted earlier. They may be fruitfully employed during one or more lessons, but they are not intended to set up a long-term inquiry and will not be revisited over an extended time period.

Questions That Hook

The best teachers have long recognized the value of hooking students' attention at the start of a new lesson, unit, or course. Indeed, clever opening questions can spark interest, capture imagination, and set up wonder. Although we most certainly encourage the use of questions that hook students' interest, they differ from essential questions. Consider two examples of "hooks" to see how they are distinguished from associated essential questions:

1. To open a unit on nutrition for 6th graders, a teacher poses the following question: "Can what you eat and drink help prevent zits?" This hook effectively captures students' interest and launches an exploration of the unit's broader EQ: "What should we eat?"
2. A science teacher in an Alaskan village uses this question to hook his students: "Are we drinking the same water as our ancestors?" Given the cultural reverence for ancestors and the significance of the ocean for survival, this is an elegant opener in the context of his school community. It is coupled with the companion essential question "Where does water come from and where does it go?" to spark ongoing inquiry into the relevant science.

Figure 1.1 provides examples that will help you to distinguish among the four types of classroom questions discussed in this chapter, and Figure 1.2 highlights the characteristics of each type.